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PISA Results: A Chicken Little Moment?

Posted: 12/09/2013 1:45 pm

The current debate regarding interpretation of recently released results of the Program for International Student Assessment (PISA) implies that we need to choose between two interpretations: 1. The educational sky isn't falling. Although US students have never done well on international tests, as a nation we have made remarkable economic progress and remain the strongest most innovative economy; or 2. PISA results should be a wake up call. PISA assesses important 21st century skills. Our students' abilities remain stagnant while other countries are racing ahead.

Could these both be valid claims?

Critique of overreaching evidentiary claims is essential, but the results of the debate may not move us forward toward effective solutions. As Jack Buckley, Commissioner at the National Center for Education Statistics said, "These kinds of studies [PISA analyses] are really good at describing where we stand and maybe looking at trends. They're not good at all at telling us why. The study design is not one that supports causal inference."

Critique of current education reform strategies does not imply acceptance of current conditions or outcomes. In fact, I think it is important to stipulate up front that we have urgent and substantial problems to address in two areas that are essential to student success.

(1) The enormous variation across schools in the distribution of financing, community and family resources, and teaching effectiveness and educational outcomes is unacceptable and destructive. *These are equity problems.*

(2) There is too little educational emphasis in several essential learning domains including, creative and critical thinking, working collaboratively as a member of diverse teams and applying academic knowledge to solve new complex problems. *These are focus problems.* We live in a society with vast and growing inequality. Therefore, designing systemic solutions to these problems requires answering two values questions.

To what extent are we willing to invest in mediating the extent to which children's life circumstances determine their readiness and ability to sustain learning?

A lot would mean funding universal health care; preschool, after-school and summer

programs, a substantial increase in the minimum wage and programs to mediate residential segregation, new tax policy to ensure equity in school funding, and a rigorous approach to teacher development and ongoing support similar to that of the medical profession. A little would mean selective or partial funding-- or through competition, some programs for a subset of students.

How deep and broad are our goals for education?

Very deep and broad would mean focusing for all students on a wide range of educational goals, including preparing students for life skills, such as empathy; work skills, such as persistence; citizenship skills, such as the ability to determine whether explanations are supported by evidence; and knowledge skills across reading and writing literacy, mathematics, science and engineering, social science and the arts. More superficial or narrower goals would mean limiting the focus to fewer subject areas or to the abilities required by current market demands. Less ambitious goals may also mean accepting narrower expectations for some students, as for example, students who struggle with basic skills.

In engineering, there is a concept called constraints. After a problem is identified, solutions must have boundaries -- real life resource constraints that are technical, but also value laden. For example, technical constraints such as the capacity of technologies to probe student understanding or a teacher's attentional capacity help define the optimal class size the mix of computer, face-to-face resources and personal contact in a classroom. However, deciding how much to invest in technology and teachers and for whom is a values choice.

Another engineering concept is trade-offs. When designing solutions to educational problems with its complex interacting subsystems, there are no solutions that are optimal for everyone or every part of the system. So, there are trade-off decisions to make. For example, as a society we make choices about whom to tax, how much and for what purposes. The wealthy may invest their money to spur economic growth, but if the rest of us have too little we are unable to buy the goods that keep the economy going. Tax policy that increases school funding in poorer neighborhoods may decrease it for the children of the wealthy. These strategic choices are value-laden.

Thoughtfully addressing educational improvement requires us to examine these choices, to examine what we accept as givens and what values frame the trade off choices we make. Recently, there has been increased attention to lack of upward mobility that challenges the American dream of "rising above one's circumstances." That perspective leads us to ask about what we need to do create educational opportunities the make it easier move up the ladder and "escape from poverty." I would prefer to ask about what we need to do ensure a decent respectable life and high-quality education for everyone no matter where they are on the ladder.

The ideas expressed in this article are those of Arthur H. Camins alone and do not represent Stevens Institute of Technology.

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